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Claims

1 A method for use in the treatment of cancer comprising:

i) administering to a mammal an effective amount of at least one vector capable of transfecting at least one tumour cell characterised in that said vector includes at least one P450 gene, or the effective part thereof, the expression of which is controlled by a promoter sequence, or the effective part thereof, which shows substantially tumour cell specific expression; and

ii) administering a therapeutically effective amount of at least acetaminophen, or a structurally related derivative thereof.

2. A method according to Claim 1 characterised in that said mammal is human.

3. A method according to Claims 1 or 2 characterised in that said vector is a eukaryotic expression vector.

4. A method according to any of Claims 1 – 3 characterised in that said vector is a viral based vector.

5. A method according to Claim 4 characterised in that said vector is a hybrid viral vector.

6. A method according to Claim 4 or 5 characterised in that said viral based vector is selected from at least one of the following: adenovirus; retrovirus;adeno associated virus; herpesvirus; lentivirus; or baculovirus.

7. A method according to any of Claims 1 – 6 characterised in that said tumour promoter is selected from at least one of : TRP-1; HER2; HER3; ERBB2; ERBB3; CEA; MUC1; or α-fetoprotein; Rous sarcoma virus long terminal repeat; cytomegalovirus promoter; murine leukaemia long terminal repeat; simian virus 40 early and late promoters; herpes simplex virus thymidine kinase promoter; prostate specific antigen promoter (PSA); zilin gene promoter; pancreatic amylase promoter; tyrosinase related peptide promoter; tumour rejection antigen precursor promoters.

8. A method according to Claim 7 characterised in that said promoter is a hybrid promoter of at least the effective parts of at least two tumour cell specific promoters.

9. A method according to any of Claims 1 – 8 characterised in that said P450 gene is of mammalian origin.

10. A method according to Claim 9 characterised in that said P450 gene is of human origin.

11. A method according to Claim 9 characterised in that said P450 gene is of rodent origin.

12. A method according to Claim 10 characterised in that said human P450 gene is selected from : CYP1A2; CYP2E1; or CYP3A4.

13. A method according to Claim 11 characterised in that said P450 gene is selected from: rodent CYP1A2; rodent CYP2E-1; or rodent CYP3A4.

14. A method according to Claims 1-14 characterised in that said tumour cell is selected from at least one of the following cancers: breast; pancreatic; ovarian; cervical; lung; hepatic; renal; testicular; prostate gastrointestinal; glioma; melanoma; bladder; lymphoma; leukaemia; epithelial, mesothelial; retinal.

15 A vector for use in the method according to Claims 1 – 14.

16. Acetaminophen in combination with a vector as defined in any of Claims 1 – 15 for use in the treatment of cancer.

17. A method for use in the treatment of cancer comprising:

i) administering to a mammal an effective amount of at least one vector, capable of transfecting at least one tumour cell, characterised in that said vector includes at least one P450 gene, or the effective part thereof, the expression of which is controlled by a promoter sequence, or the effective part thereof, which shows substantially tumour cell specific expression;

ii) administering an effective amount of at least one agent capable of modulating the amount of glutathione in said mammal; and

iii) administering a therapeutically effective amount of acetaminophen, or a structurally related derivative thereof.

18. A method according to Claim 17 characterised in that said agent is selected from at least one of: methionine; acetylcysteine.

19. A vector as defined in any of Claims 1 – 15 and a therapeutically effective amount of acetaminophen, or a structurally related derivative thereof, as a combined medicament for the simultaneous, separate or sequential use in the treatment of cancer.

20. A kit for use in the treatment of cancer comprising a vector as defined in any of Claims 1 - 15; acetaminophen; and, optionally an excipient, carrier or dilulent.